

# County Fuel Purchasing Strategies

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Department of General Services  
February 20, 2009

# CountyStat Principles

- **Require Data Driven Performance**
- **Promote Strategic Governance**
- **Increase Government Transparency**
- **Foster a Culture of Accountability**



# Agenda

- **Welcome and introductions**
- **Purpose of meeting**
- **Scope of vehicle fuel purchasing**
- **Budget Process**
- **Procurement Methodologies**
- **Purchasing strategy**
  - Current strategy
  - Possible alternatives (benchmarked against other jurisdictions)
- **Fuel management**
  - Current Strategies
  - Future Options
- **Wrap-up**



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# Purpose

**This meeting responds to a CountyStat follow-up item dated November 14, 2008:**

- Analyze and discuss of the County's fuel purchasing strategies
- This discussion is solely on purchasing for vehicle fleet, including: diesel, gasoline, compressed natural gas (CNG) and ethanol (E85)

**By reviewing DGS's fuel purchasing for the vehicle fleet, we can determine whether other strategies should be considered to ensure the County is able to procure fuel at the best price.**



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# Scope of Fuel Purchasing

- **DGS purchases fuel for County vehicles in all departments, with two exceptions**
  - Fire & Rescue Services - Fire and Rescue uses fleet fuel sites when it is convenient to them
  - Solid Waste Services (DEP) - Solid waste uses fuel from fleet fuel sites for its on-road fleet. For off-road equipment they have their own fuel contracts

Vehicle Fleet (2008)	
Light	2,251
Heavy	728
Transit	375
Total Vehicles	3,354

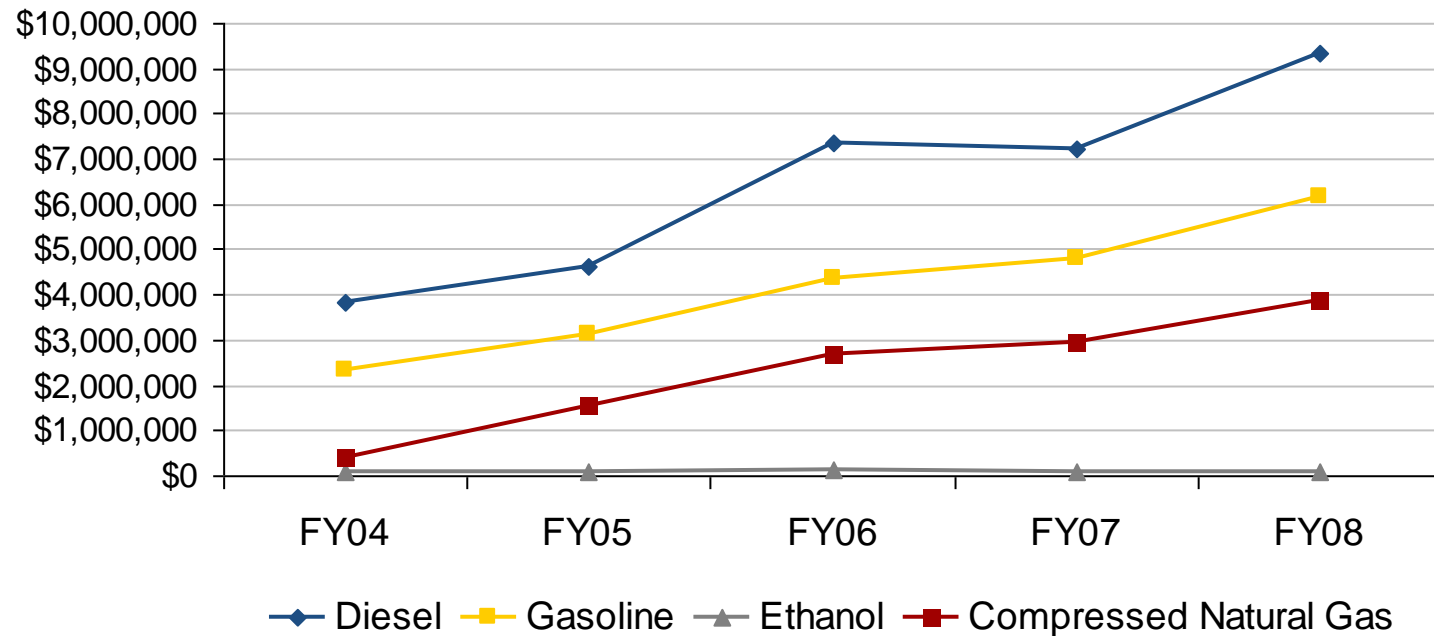
**The three major vehicle fuel users are Police, Highway Services (DOT) and Transit Services (DOT).**



Source: DGS

# Scope of Fuel Purchasing Budget

DGS Motor Pool Fund, Budget Actuals



This chart displays the actual dollars spent on vehicle fuel since FY04.



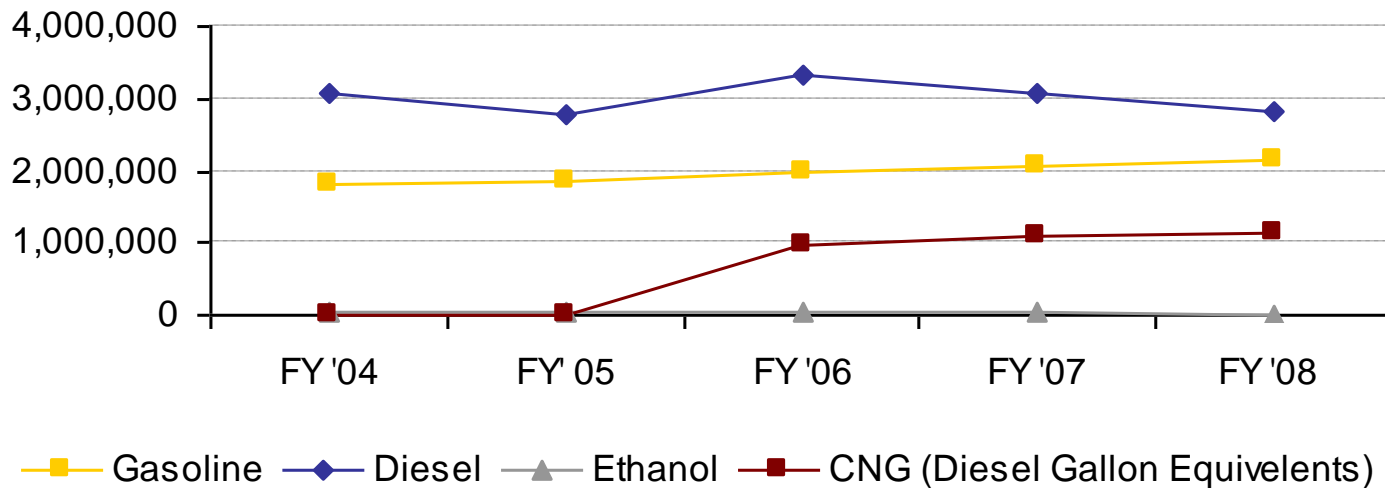
Source: OMB Financial Switchboard



# Scope of Fuel Purchasing

## Fuel Usage

### DGS Fuel Usage Actuals In Gallons



Note: DGS didn't gain the capability of tracking natural gas in gallon equivalent until FY06

**This chart displays the County's vehicle fuel use since FY04 for gasoline, diesel, ethanol and natural gas. In FY08, DGS purchased 6,174,364 gallons of fuel.**

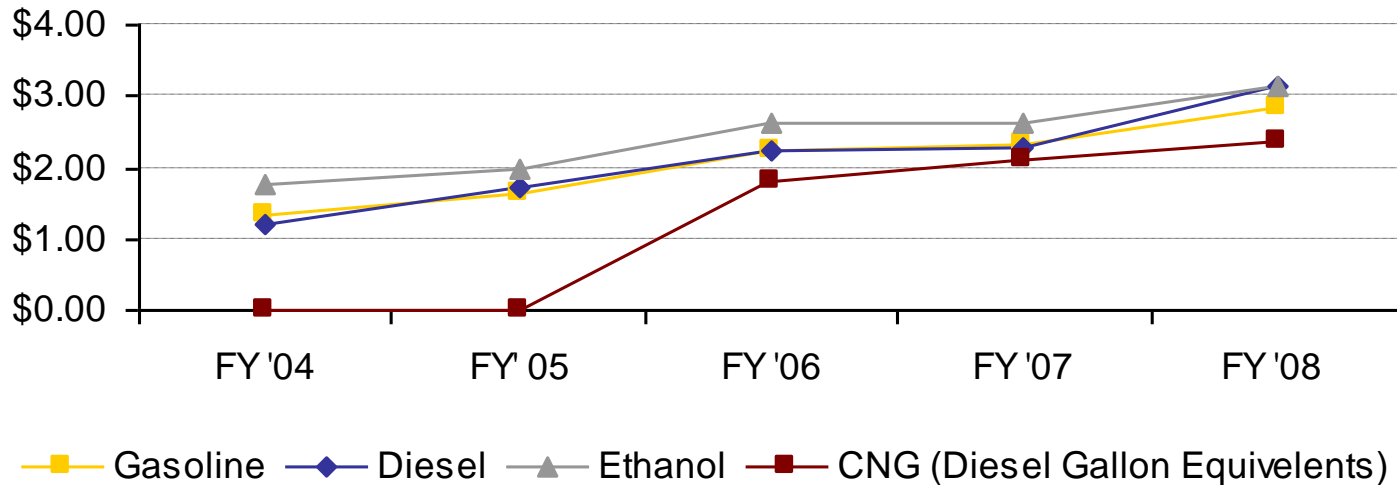


Source: DGS

# Scope of Fuel Purchasing

## Fuel Cost

### DGS Fuel Cost per Gallon



Note: DGS didn't gain the capability of tracking natural gas in gallon equivalent until FY06

**This chart displays the County's fuel cost per gallon since FY04 for gasoline, diesel, ethanol and natural gas. Much of the increase in dollars spent can be attributed to the rise in price per gallon.**



Source: DGS

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# Fuel Purchasing Budgeting

## Steps to come to agreement on the DGS fuel budget

- DGS completes an analysis and projection to develop a budget number
- OMB reviews this analysis and comes to an agreement with DGS on a budget figure (Based on a variety of factors including: ICEUM rates, current year approved rates, most recent rates, FY-to-date average, other market indicators)
- On a regular basis, OMB reviews spending to date relative to the budgeted amount and makes necessary adjustments. At the end of the fiscal year, OMB processes the necessary adjustments based on actual expenditures

**DGS assists OMB in developing fuel budgets for other County departments (i.e. Police) by making a recommendation based on price and past usage. The process of reviewing and adjusting remains the same regardless of department.**



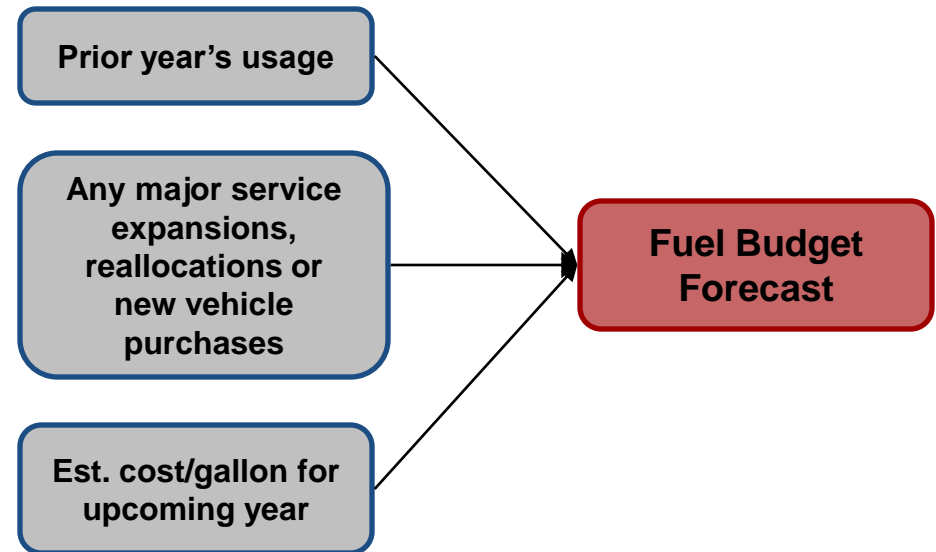
Source: DGS; OMB

# Fuel Purchasing

## Budgeting: DGS Analysis/Projections

### Variables included in budget projection

- Initial fuel assumptions based on prior year's usage
  - Compared to the growth/decline in usage prior years and year to date
- Major users provides information on service expansions; reallocations and new vehicle purchase are taken into consideration as well
- Estimated cost per gallon for each fuel type



**DGS develops its annual budget projection based on the above factors. If the result is flat, then it estimates a 3% increase in cost.**



Source: DGS

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# Fuel Purchasing Methodologies

## Procurement Overview

Fuel Type	Procurement Method	Length of Contract	Pricing Strategies	Cooperative Component?
<b>Diesel</b>	Invitation for Bid (WMATA/COG)	5 years	Index-based price per gallon with built-in supplier margin	COG Cooperative Purchasing Program
<b>Gasoline</b>	Currently Invitation for Bid (MOCO/COG)	4 years	Index-based price per gallon with built-in supplier margin	COG Cooperative Purchasing Program
<b>Gasoline (Projected)</b>	Reverse auction	4 years	Index-based price per gallon with built-in supplier margin	Participate in Coexpress Marketplace with other COG participants
<b>Compressed Natural Gas</b>	Reverse auction (DC GOV/COG)	3 years	Hedged fixed rate per therm	Participate in Coexpress Marketplace with other COG participants
<b>E85</b>	Informal procurement	N/A	Request sent out to local vendors. Vendors submit price quotes. Fleet purchases from lowest bidder.	No Cooperative Component



Source: DGS

# Fuel Purchasing Methodologies

## Procurement: Invitation for Bid (Diesel)

A Invitation For Bid is an invitation for suppliers, through a bidding process, to submit a proposal on a specific product or service.

### Diesel is procured via an Invitation for Bid (IFB)

- COG assists with coordinating the IFB (WMATA is the lead agency)
  - Lead jurisdiction initiates the IFB
  - COG coordinates with participating jurisdictions by gathering specific requirements for each jurisdiction and forwarding them to the lead jurisdiction
- Price per gallon is based on a **1-week average index price** plus fixed supplier margin
- Five year contract



Source: DGS



# Fuel Purchasing Methodologies

## Procurement: Invitation for Bid (Gasoline)

A Invitation For Bid is an invitation for suppliers, through a bidding process, to submit a proposal on a specific product or service.

### Gasoline is procured via an Invitation for Bid (IFB)

- County participates in COG's Cooperative Purchasing Program
  - Lead jurisdiction initiates the IFB
  - Lead Jurisdiction is determined by the jurisdiction that has the highest usage for a designated fuel type
  - COG coordinates with participating jurisdictions by gathering specific requirements for each jurisdiction and forwarding them to the lead jurisdiction
- Price per gallon is based on a **2-week average index price** plus fixed supplier margin
- Four year contract

DGS is migrating to a reverse auction for its gasoline procurement needs.



Source: DGS

# Fuel Purchasing Methodologies

## Procurement: Reverse Auction

**A reverse auction is a type of auction in which the role of the buyer and seller are reversed, with the primary objective to drive purchase prices downward. In a reverse auction, sellers compete to obtain business.**

### Steps to a Reverse Auction

- Reverses buyer and seller roles
- Allows prospective vendor to submit multiple bids
- Creates a more competitive market place by allowing multiple bids by competing bidders
- A consultant works with jurisdictions to come to consolidate terms and solicits bidders then assists with pre-registering bidders for the auction
- Bidding is done online
- Jurisdictions can reject the bid if not satisfactory
- The contract awardee pays the consultant fees if a contract is awarded

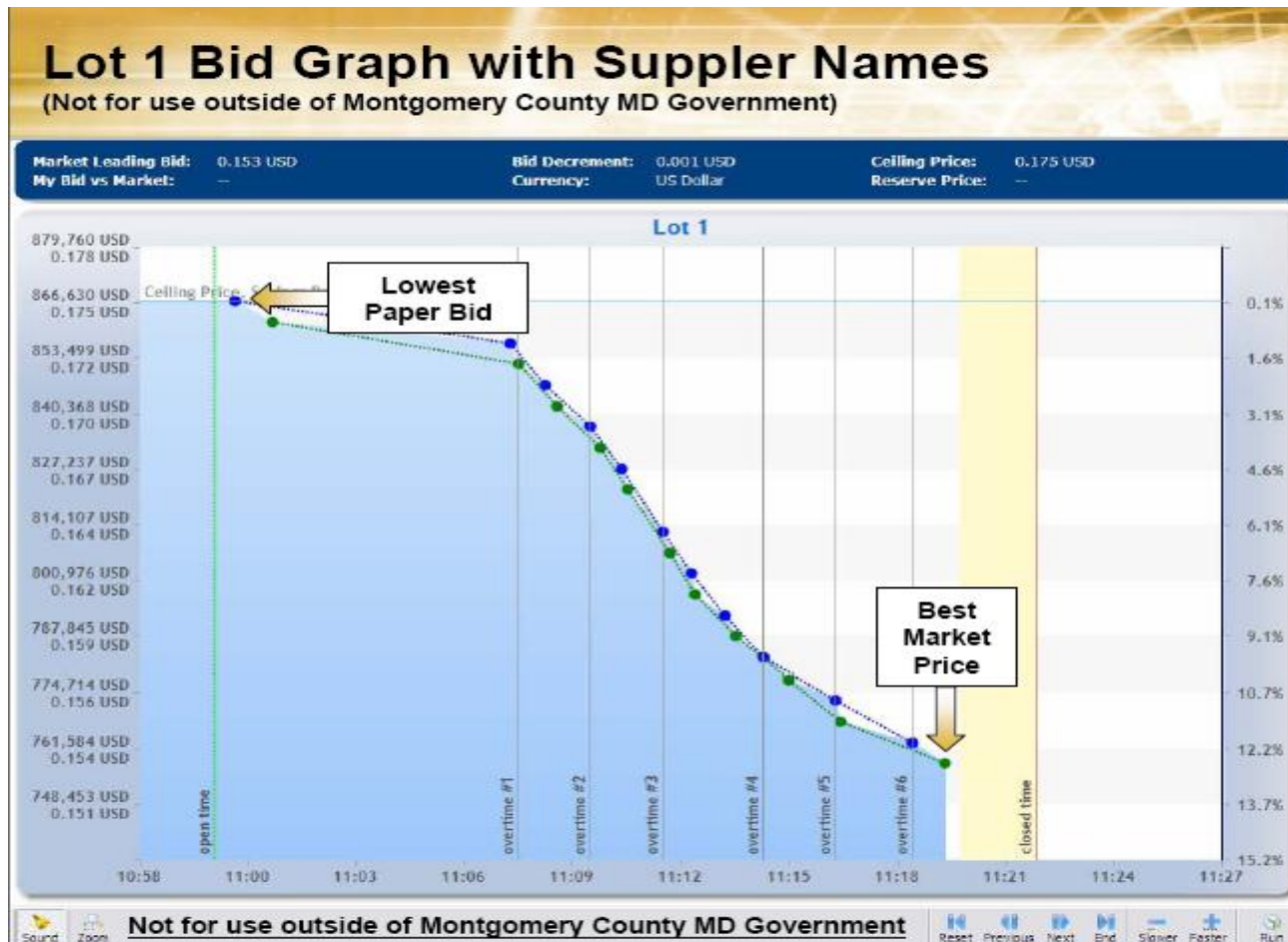
**While reverse auctions can be used for a wide range of products and services, they tend to be best suited for commodities where the number of vendors, and current supply, is large enough to encourage price competition.**



Source: DGS; COG Cooperative Purchasing Program

# Fuel Purchasing Methodologies

## Procurement: Reverse Auction



Reverse auction online platform



Source: DGS

# Fuel Purchasing Methodologies

## Procurement: Reverse Auction (CNG)

**Compressed Natural Gas (CNG) is purchased through a reverse auction**

- The CNG contract term is three years for the vendor margin
- The commodity price can be locked in over 6-month or 1-yr periods
- During the previous contract term, the Division of Fleet Management Services (DFMS) paid \$0.3225 per therm on average for its Local Distribution Company (LDC) (Utility).
- Under the new contract, the LDC is fixed at \$0.153 per therm, saving \$0.1695 per therm used. In the first year of the contract, DFMS used a total of 1,873,972 therms of natural gas for fueling purposes.

Previous Contract	New Contract
\$0.3225 per therm	\$0.153 per therm

**From December 1, 2007 thru November 30, 2008, Fleet Management Services was able to save \$317,638.25.**



Source: DGS

# Fuel Purchasing Methodologies

## Future Procurements: Reverse Auction (Gasoline & Diesel)

**A reverse auction for gasoline has been proposed and is currently in process**

- Projected term will be 4 years
- DGS's goal is to increase bid competition and ultimately best value for the County.
- If successful, DGS will migrate to use a reverse auction for its diesel fuel procurement.

**The County will evaluate new methodologies and industry practices to ensure increased competition and ultimately best value.**



Source: DGS

# Fuel Purchasing Processes

## Departments that Purchase Outside of DGS Process

### Montgomery County Fire and Rescue Service (MCFRS)

- **Purchases fuel from both vendors and the County**
  - Local Fire and Rescue Departments (LFRD) may purchase own fuel and manage own fueling sites
  - Most do so for diesel, and many for gas, because some County fuel sites are inadequate and inaccessible due to number, hours, location and size, according to FRS
  - Most use same vendor for diesel
  - Many use local service stations for gas
- **MCFRS monitors LFRDs' costs**
  - Invoices submitted for reimbursement for September-December 2008 are totaled in the table

Fuel Type	Gallons	Avg. LFRD Cost per Gallon	Avg. County Cost per Gallon*	Avg. County Chargeback per Gallon**
Diesel	98,506	\$2.96	\$2.78	\$3.10
Gas	12,978	\$2.71	\$2.55	\$2.79

Source: Data provided by MCFRS; \*Avg County cost provided by DGS FMS; \*\*Avg chargeback calculated by CountyStat, data provided by MCFRS



# Fuel Purchasing Processes

## Departments that Purchase Outside of DGS Process

### DEP-Solid Waste Services

- **Purchases fuel for**
  - Dickerson Compost Facility: 50-60,000 gallons per year (Biodiesel)
    - Purchased through an intergovernmental agreement with the State of Maryland (Maryland Environmental Service)
    - If Fleet Services can offer B20 and B5 satisfying BQ9000 standards and guarantee on-call delivery to the Compost Facility at better rates than Phoenix, then Solid Waste will review the terms of services offered.
  - Transfer Station and Recycling Center: 135,000 gallons (Diesel)
    - Already purchased on a competitive County bulk contract

**While Solid Waste Services purchases a portion of its fuel through the State, most of its vehicle fuel is purchased on a County contract.**



Source: DEP-Solid Waste Services

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# Current Purchasing Strategy

## Department of General Services

### DGS fuel purchasing strategy is based on several factors

1. Assess commodity to determine whether index-based pricing or hedging is more appropriate
2. Favor joint procurements in order to take advantage of the leverage created by aggregating requirements
3. When reviewing new contracts, analyze the pros and cons of each purchasing strategy in order to make most informed decision
4. Examine market trends and attempt to apply the correct strategy given the market conditions at the time of purchasing
  - Some markets are favorable to one type of contracting over another
5. Promising new strategies (i.e. reverse auction) are pilot-tested, and if successful, transitioned into other areas
6. Analyze pros and cons of different procurement strategies coupled with industry best practices



Source: DGS

# Current Purchasing Strategy

## Department of General Services

**In 1982, the chief purchasing committee within the Nation's Capital Region (NCR) assembled with the goal of conducting a cooperative fuel purchase, as a result of relaxed federal government regulations regarding how local governments and municipalities purchased fuel.**

- Prior to 1982, government agencies in the NCR Council of Governments (COG) executed their own fuel contracts
  - Each contract had a rider that allowed other agencies to purchase fuel once the contract had been established but didn't allow the agencies to leverage utilizing aggregate totals
- The initial cooperative purchase was initiated by Fairfax County for heating oil



Source: DGS

# Current Purchasing Strategy

## Department of General Services

### Fixed price (Hedging) - fuel price fixed over the term of the contract

Pros	Cons
<ul style="list-style-type: none"><li>▪ Price stability</li><li>▪ Could lock-in prices when fuel prices were low and use fuel when market price was high</li></ul>	<ul style="list-style-type: none"><li>▪ Could cause instability with fuel distributors as risk is passed on to them</li><li>▪ Doesn't adapt to spikes in fuel prices that result from natural disasters or temporary changes in market conditions</li><li>▪ Stifles local competition due to the increased risk</li><li>▪ Could cause higher prices as distributors insulate companies against risk established by locking-in prices.</li><li>▪ Could be stuck paying higher fuel prices if the market value for fuel went down while a contract was in place.</li></ul>

During the initial collaboration between the local governments in the COG, the pros and cons of several pricing strategies were discussed.



Source: DGS

# Current Purchasing Strategy

## Department of General Services

### Index-based purchasing

Pros	Cons
<ul style="list-style-type: none"><li>▪ Shares risk with bidder</li><li>▪ Increases vendor competition by allowing smaller companies to compete as it minimizes large amounts of exposure.</li><li>▪ Allows bid to be structured with a price per gallon to account for overhead</li><li>▪ Fuel commodity cost based on market cost for fuel</li></ul>	<ul style="list-style-type: none"><li>▪ Pricing is not fixed over an extended period</li><li>▪ Fuel cost has to be calculated over a period of time</li></ul>

**Based on the analysis conducted, the NCR Council of Governments (COG) selected an index-based pricing structure. After the selection of an index-based pricing structure, COG conducted a campaign to educate budget professionals in the jurisdictions participating in the cooperative fuel purchases.**



Source: DGS

# Purchasing Practices of Other Jurisdictions

Jurisdiction	Current Practice
Montgomery County	<ul style="list-style-type: none"> <li>Participates in COG cooperative purchasing for diesel, gasoline, and CNG purchases</li> </ul>
Fairfax County	<ul style="list-style-type: none"> <li>Rides the same vehicle fuel contracts as Montgomery County</li> <li>Has not attempted hedging agreements (requires a dedicated staff)</li> </ul>
Anne Arundel County	<ul style="list-style-type: none"> <li>Diesel &amp; Gasoline: Has a purchasing agent on contract that buys off the <b>spot market</b> on a weekly basis; has realized savings compared to price County was paying through Baltimore Regional Cooperative</li> </ul>
Howard County	<ul style="list-style-type: none"> <li>Diesel &amp; Gasoline: Co-op purchase through Baltimore Regional Cooperative; using OPIS 1 week index</li> </ul>
Carroll County	<ul style="list-style-type: none"> <li>Diesel &amp; Gasoline: Consorts with Baltimore and Harford Counties on fixed-price long-term contract; previously had adjustable rate contract using OPIS</li> </ul>
City of Indianapolis, IN	<ul style="list-style-type: none"> <li>Engaged in a <b>swap agreement</b> with a bank to hedge a portion of its fuel purchase; working towards a cooperative agreement with “second-class” cities in Indiana</li> </ul>

Most jurisdictions examined use similar practices to Montgomery County. Anne Arundel County is the most unusual from standard practice in the surrounding area.



# Possible Alternatives Strategies

## Spot Market Pricing

**Spot Market Pricing- Purchasing fuel on the open market at fair market value daily**

Pros	Cons
<ul style="list-style-type: none"><li>▪ Can purchase fuel when needed at the daily price on the market</li><li>▪ Doesn't force the fuel distributor to assume additional risk</li><li>▪ Keeps distributors margins low</li><li>▪ Allows bid to be structured with a price per gallon to account for overhead</li></ul>	<ul style="list-style-type: none"><li>▪ Increased pricing volatility</li><li>▪ Requires additional staffing to monitor purchase prices and charge backs to user agencies.</li><li>▪ County assumes all risk</li></ul>

**Buying on the spot market is very similar to index based pricing.**



Source: DGS

# Possible Alternatives Strategies

## Hedging Agreements

- **Fuel price swaps operate similarly to interest rate swaps**
  - If an agency budgeted \$2/gallon for its fuel purchases, it could create a swap agreement with an investment grade bank with a strike price of \$2, based on a price index (i.e. OPIS, NYMEX). If the index rises to \$2.20, the bank would pay the agency \$.20, but if the index falls to \$1.80, then the agency would pay \$.20 to the bank.
- **By artificially fixing the price, the agency avoids the risks of higher prices, but foregoes the benefits it could realize if prices were to decrease**

Benefits	Considerations
<ul style="list-style-type: none"> <li>▪ Results in a more stable and predictable fuel budget</li> <li>▪ Current fuel supply contracts could be maintained; hedging agreement is a separate financial arrangement</li> <li>▪ While a minimum fuel volume is needed, otherwise volume is not fixed beyond that</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires having the expertise either in house or on contract (financial advisor, energy advisor, legal counsel) equipped to set up swap</li> <li>▪ Projected fuel consumption needs to justify the costs involved, including fees</li> <li>▪ Pooling with other jurisdictions would likely result in a better price</li> <li>▪ Hedging entire purchase is not recommended practice (50% is good rule of thumb)</li> </ul>

**A fuel price hedge can be helpful in bringing stability and predictability to a budget. The City of Indianapolis has hedged part of its fuel purchase, and surrounding municipalities are considering joining this effort.**



Source: Crowe, Chizek and Company, LLC (public accounting and consulting firm based in Indiana)

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# Fuel Management

## Current Strategies

- **DGS Fleet Management provides fuel support and services 11 sites in the county.**
  - DGS provides and maintain fuel site inventories, repairs equipment and maintains environmental and permit requirements
- **Uses a fuel management system that captures vehicle, fuel site, and mileage information in order to assess departmental usage**
  - Currently, information is primarily used for interdepartmental billing for fuel usage
  - Data is also imported into fleet management software for billing user agencies
- **Equipment in need of replacement or upgrade**
  - Mileage data has become less accurate over the years as vehicle technologies have changed
  - New equipment provide added benefits such as idle monitoring and GPS



# Fuel Management

## Future Options

- On-line fuel reporting for user agencies
- GPS location of county vehicles
- Real-time idle monitoring



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# Wrap up

- Follow-up items

